

PATENT APPLICATION: 2780-199 DIV 3

Section II. (Remarks)**Response to Objections to Claims 2-4**

In the June 15, 2004 Office Action, the Examiner objected to claims 2-4 under 37 C.F.R. §1.75 as being substantial duplicates of claim 1.

In response, Applicants have amended claims 1-4.

The amended claim 1 now recites a milk product selected from the group consisting of an α -lactalbumin-enriched soluble milk protein concentrate, a β -lactoglobulin and α -lactalbumin-enriched whey protein isolate, and a sialyllactose-enriched whey protein isolate, wherein such milk product "is devoid of any chemical additives that are not natural components of milk."

In contrast, claims 2-4 as amended respectively recite an α -lactalbumin-enriched soluble milk protein concentrate, a β -lactoglobulin and α -lactalbumin-enriched whey protein isolate, or a sialyllactose-enriched whey protein isolate, which is "devoid of chemical precipitants."

It is clear that the scope of amended claims 2-4 is substantially different from the scope of amended claim 1, and claims 2-4 as amended are therefore not substantial duplicates of claim 1 as amended.

Response to §112 Rejection

In the June 15, 2004 Office Action, the Examiner rejected claims 1-4 under 35 U.S.C. §112, first paragraph for containing the term "enriched" and stated that it is not clear what kind of limits are set forth by this term.

Applicants respectfully disagree, for the following reasons.

PATENT APPLICATION: 2780-199 DIV 3

The term "enrich" has well-defined dictionary meanings of "to make rich or richer" and "to make fuller..." (see the American Heritage Dictionary of the English Language, Fourth Edition, 2000), and the term "enriched" clearly means richer or fuller in comparison with the normal amount.

It has been well-established that the fact that claim language, including terms of degree, may not be precise, does not automatically render the claim indefinite, and a relative term may be acceptable if one of ordinary skill in the art would understand what is claimed, *in light of the specification*. See MPEP 2173.05(b), citing *Seattle Box Co. v. Industrial Crating & Packing, Inc.*, 731 F.2d 818 (Fed. Cir. 1984).

In this case, the instant specification as originally filed has described in great details how the enrichment of a specific milk component is achieved, by either separating the milk using a cross-flow module to form a fraction that is enriched with such specific milk component (see instant specification, page 10, last paragraph; page 12, last paragraph), or adding the specific milk component into a milk product so as to enrich such milk product (see instant specification, page 13, second last paragraph). An ordinary person skilled in the art, upon reading the instant specification, would readily understand that a milk product enriched with a specific milk component means that such milk product contains such specific milk component at a concentration that is higher than normal, i.e., the normal or natural concentration of such specific milk component in the milk source from which such milk product is produced, either by separation of the natural milk for forming a fraction that is enriched with the specific milk component or by addition of such specific milk component into the milk product.

Therefore, the term "enriched" contained by claims 1-4 is clear and definite, consistent with the requirements of 35 U.S.C. §112, first paragraph.

PATENT APPLICATION: 2780-199 DIV 3

Nevertheless, for the purpose of advancing the present application to allowance, Applicants have hereby amended the instant specification, by adding a new paragraph on page 16 to expressly define the meaning of the term “-enriched.”

The Examiner’s rejection of claims 1-4 as being indefinite therefore has been overcome.

Response to the §102(b) Rejection

In the June 15, 2004 Office Action, the Examiner rejected claims 1-4 under either 35 U.S.C. 102(b) as being anticipated by Amundson et al., Production of Enriched Protein Fractions of Beta-Lactoglobulin and Alpha-Lactalbumin from Cheese Whey, JOURNAL OF FOOD PROCESSING AND PRESERVATION, vol. 6, pp. 55-71 (1982) (hereinafter “Amundson”).

In response, Applicants has hereby amended claims 1-4, and claims 1-4 as amended expressly require that the respective milk product be “devoid of any chemical additives that are not natural components of milk” (see claim 1) or “devoid of chemical precipitants” (see claims 2-4).

The instant specification as originally filed states on page 5 that the conventional methods for purifying whey proteins, such as that disclosed by the Amundson reference, require adjustment of pH value and addition of various chemicals and salts that are not natural components of milk, and that it is an object of the present invention to sequentially separate various milk components, “without introducing unnatural additives” (emphasis added).

It is clear that a major improvement of the present invention over the conventional milk separation methods lies in that the milk product produced by the method of the present

PATENT APPLICATION: 2780-199 DIV 3

invention does not contain any unnatural additives or chemical precipitants (see instant specification, page 9, last paragraph; page 19, second paragraph).

In contrast, the separation method disclosed by Amundson requires adjustment of the pH value of whey to 4.65, by adding chemical precipitants such as HCl or NaOH (see Amundson, page 57, lines 16-18), which are not natural components of milk and therefore undesirably alter the natural quality of milk.

The β -lactoglobulin or α -lactalbumin-enriched milk protein product formed by Amundson therefore contains unnatural chemical additives or precipitants.

Therefore, Amundson does not provide any derivative basis for milk products that are "devoid of any chemical additives that are not natural components of milk" or "devoid of chemical precipitants," as expressly required by claims 1-4 of the present application.

The Examiner is hereby requested to reconsider, and upon reconsideration to withdraw, the rejections of claims 1-4.

CONCLUSION

Based on the foregoing, pending claims 1-4 as amended herein are in form and condition for allowance. Favorable action therefore is requested.

No fee is rendered payable in association with this Amendment. Nevertheless, the Office is hereby authorized to charge any fee that is necessary for the entry of this Amendment to Deposit Account No. 08-3284 of Intellectual Property/Technology Law.

PATENT APPLICATION: 2780-199 DIV 3

If any issues remain outstanding in this application, the Examiner is requested to contact the undersigned attorney at (919) 419-9350.

Respectfully submitted,



Yongzhi Yang
Reg. No. (see attached)
Attorney for Applicants



Steven J. Hultquist
Reg. No. 28,021
Attorney for Applicants

INTELLECTUAL PROPERTY/
TECHNOLOGY LAW
P.O. Box 14329
Research Triangle Park, NC 27709
Phone: (919) 419-9350
Fax: (919) 419-9354
Attorney File No.: 2780-199 DIV 3